# REMARKS

Priority Claims and Declaration

Pursuant to the procedure indicated at M.P.E.P. § 707.05, please cancel the previous priority claims indicated in the specification to U.S. patent application serial nos. 08/887,314 and 08/443,607. Additionally, the unexecuted Declaration originally filed with the application contained additional priority claims to U.S. patent application serial nos. 08/166,608 and 07/797,298, which priority claims were noted in the Filing Receipt dated 26 April 2001. Please cancel any priority to these applications as well. The Filing Receipt did not acknowledge that the Declaration was unexecuted and a Notice of Missing Parts was never issued with respect to this application.

Please maintain the priority claims to U.S. patent application serial number 09/154,069 filed 16 September 1998 and to U.S. patent application serial number 09/335,372 filed 17 June 1999. The present application is a continuation-in-part of the '372 application, which is a continuation-in-part of the '069 application. Enclosed is a properly executed Declaration by the inventors reflecting these priority claims. Applicants further note that the Filing Receipt reflects the names of two individuals, Michael J. Freeman and Gregory W. Harper, who are not inventors with respect to the present application. These individuals were not indicated on the unexecuted declaration nor were they named on the application or any of the other filing documents. A corrected filing receipt is requested reflecting the updated priority information and the correct inventorship information. A specific request for these corrections directed to the Office of Initial Patent Examination is filed contemporaneously with this Preliminary Amendment.

The Cross Reference section has also been amended to indicate that each of the priority references and two other references are each incorporated by reference, as was indicated originally at page 6 of the application in the first paragraph of the Detailed Description. Placement of this information here is intended for ease of reference by the reader.

Written Description

Additional amendments to the Written Description are generally made to correct obvious typographical and grammatical errors. The new paragraph inserted on page 7 is provided to place the subject matter of claims 15, 16, 32, 33, 53, 78, and 79 in context with related descriptive passages. On page 6, the application number of a referenced patent

application that has since issued as a patent has been replaced by the patent number. No new subject matter has been added.

Abstract

Amendments to the abstract are made to shorten its length to meet the word count requirements of M.P.E.P. § 608.01(a).

Claims

Amendments to the claims were made in most instances to correct grammatical and usage errors or to ensure consistency and antecedent basis with terms used between independent and dependent claims. Further amendments were made to broaden the claims, for example, by replacing the transitional phrase "consisting of" with the term "comprising."

Additional amendments are specifically addressed as follows.

Claims 3, 27, and 55 are amended to clarify that the type of storage server is identified by the media used by the storage server, which was potentially ambiguous before amendment.

Claims 4, 5, 64, and 65 are amended to clarify that the splice points are encoded into each program segment.

Claims 12 and 75 are amended to remove potential ambiguity by indicating that either of the steps of accessing, directed to either the first or second digital programming segment, may be by receiving either the first or second digital programming segment from the remote transmission source.

Claim 15 is amended to remove any ambiguity of how the added step relates to the previously claimed steps of selecting.

Claims 15, 16, 32, 33, 78, and 79 are amended to broaden their scope by removing the limitation that the library is part of the remote transmission source.

Claims 17, 18, 80, and 81 are amended to remove potential ambiguity by indicating that either of the steps of accessing, directed to either the first or second digital programming segment, may be by retrieving either the first or second digital programming segment.

In claim 23, the elements are reorganized for clarity.

Claims 23, 42, and 88 are amended to broaden the possibility of the user preference information to be received to include either or both a user selection and an interactive response to an interrogatory.

Claim 24 is broadened by removing the limitations of the Internet and a private network.

Claims 31, 35, 36, 42, 45, and 61 are broadened by the addition of the phrase "at least one of" to remove the implication that all of the digital program segments are necessarily subject to the limitations of the claim.

The term "succession of" is added in claims 31, 35, 36, 45, 49, 64-69, 82, and 89-90 to conform to the antecedent basis set forth in each independent claim to which each of these claims respectively depends.

Claim 39 is broadened by the addition of the phrase "at least one of" to remove the implication that the programming would be limited to only one of the types of programming identified in the group.

Claims 45 and 46 are amended to recite the inherent structure of a data inserter by which the data commands indicated in the original claim would be inserted into the program segments.

Claim 50 is amended to conform to the terminology used in the other independent claims.

Claim 53 is amended to clarify that the step of selecting is performed based upon information in the database and that the database information is governed by the set of rules.

Claims 59 and 85 are broadened by the addition of the phrase "at least one of" to remove the potential implication that all of the program segments would be the same type of programming.

Claim 61 is broadened by the addition of "communication network" generally to the recitation of the Internet specifically.

The preamble of claim 62 is amended to provide a definition of "customized programming" present in the preambles of the other independent claims, but inadvertently left out of the preamble in this claim. The clause "causing the digital programming system to transmit the second digital program segment to the user" is added to clarify the inherent step resulting in the provision of an uninterrupted transmission.

Claims 62-65, 68, 70, 73, 78-82, and 88 are broadened by the removal of the limitation that the programming system be a "transmission" system.

Claim 68 is amended to depend from claim 63 rather than claim 62 to correct an obvious drafting error in the dependency notation as the instruction to store does not appear until claim 63.

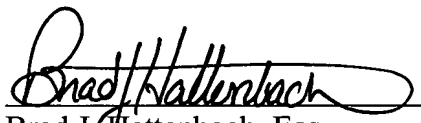
Claims 89 and 90 are broadened to indicate that there is no requirement that more than one additional digital program segment be retrieved from the Internet or a private network.

Claim 90 is amended to depend from claim 64 rather than claim 65 to correct a drafting error.

Claims 91 and 92 are canceled as duplicative of claims 89 and 90.

Please enter the noted amendments before substantive examination of the claims. Applicants await the prompt review of the application and allowance of the claimed invention.

Respectfully submitted this 21st day of January 2003.



Brad J. Hattenbach, Esq.
Registration No. 42,642
Customer No. 20686

DORSEY & WHITNEY LLP
Republic Plaza Building, Suite 4700
370 Seventeenth Street
Denver, Colorado 80202
303-629-3400 (TEL)
303-629-3450 (FAX)
hattenbach.brad@dorseylaw.com

APPENDIX A

VERSION WITH MARKINGS TO SHOW CHANGES MADE

Please enter the following amendments in this application. Additions are indicted by underlining and deletions are indicated by ~~strikethrough~~ text.

In the Written Description:

At page 1, lines 10-14, replace the paragraph under the heading of "Cross References to Related Inventions" with the following paragraph:

This application is a continuation-in-part of and claims priority to U.S. patent application serial number 09/335,372 filed 16 September 1998 entitled *Compressed Digital-Data Seamless Video Switching System*, which is a continuation-in-part of U.S. patent application serial number 09/154,069 filed 17 June 1999 entitled *Compressed Digital-Data Seamless Video Switching System*, each of which is hereby incorporated herein by reference in its entirety ~~which is a continuation-in-part of U.S. patent application serial number 08/887,314, which is a continuation of U.S. patent application serial number 08/443,607, now U.S. Patent Number 5,724,091~~. This application is also related to U.S. Patent Nos. 5,724,091 and 6,181,334, each of which is hereby incorporated herein by reference in its entirety.

At page 2, replace the paragraph at lines 14-22 as follows:

In addition to the concerns of and limitations on the viewers, the channel explosion also makes it more difficult for advertisers to reach, or even find viewers potentially interested in their products or services. Viewers will be scattered throughout an ever spread of channels and the advertisers resources will be spread thin. Viewers will also be more likely to flip or surf through the spectrum of program offerings, searching for something of interest. When programming does not hold interest to a viewer, the advertiser loses because the viewer will not continue to ~~{view}~~ watch the channel during a commercial break in anticipation of the next segment of the program.

At page 6, replace the paragraph at lines 19-27 as follows:

In order to achieve the benefits of customized programming creation system, the present invention employs a digital interactive programming system as disclosed in U.S. Patent ~~No.~~ Nos. 5,724,091 and 6,181,314, and U.S. patent applications Serial Nos.

~~08/887,314,~~ 09/154,069~~,~~ and 09/335,372, each of which is entitled: "Compressed Digital Data Seamless Video Switching System," and which are incorporated herein by reference. A preferred embodiment of a digital interactive programming system 100 specific to customized programming creation is shown in Figure 1a. Figure 1b depicts an interactive programming system 150 that utilizes an entirely network based transmission system, preferably the Internet 142.

At page 7, between the paragraph ending at line 23 and the paragraph beginning at line 24, insert the following new paragraph:

Programming segments may be selected from the library of storage servers 214 at a user's local transmission center 102 or from another local transmission center or regional transmission center 140 remote from the user. A listing of the programming segments stored in the libraries, the location of the programming segments within the libraries, and a time period for storage of the programming segments within the libraries may be maintained in one or more databases associated with the libraries. The library of digital program segments may be updated regularly according to a set of rules governing the library. The set of rules may provide instructions indicating which of the digital program segments are to be stored in the library, a location for storage of each of the digital program segments, and the length of time for storage of each of the digital program segments before the program segments should be purged from the library. The set of rules may be based upon an aggregation of related user preference information from the user information database 136 of a plurality of users. By reviewing user preferences, the interactive programming system 150 can determine which program segments are popular among users and should continue to be stored, and which program segments have little demand, and thus can be removed from the storage servers 214 in a particular library to provide room for more popular program segments.

At page 9, replace the paragraph at lines 13-28 as follows:

Customized programming content presented via a digital interactive programming system 100 ~~system~~ can be provided in multiple forms. It can be simulated, wherein all possible programming content made available for customized programming is transmitted at all times so that switching between alternative programming segments to select tailored programming content can be performed at each user's receiver 108. This is a very limiting embodiment because the quantity of alternative programming segments available is limited as a function of the bandwidth of the transport stream 104. A second embodiment may transmit

certain programming content to various groups of users based upon constructed group profiles. This embodiment provides more targeted programming content transmitted to a user's receiver 108 within the bandwidth limitations and allows for additional customization through switching between alternative programming segments at the user's receiver 108. A preferred embodiment provides for complete customized programming, tailored to each user, and is preferably implemented by switching between programming segments at the transmission center 102 prior to transmission, rather than at a user's receiver 108.

At page 26, replace the paragraph at lines 10-28 as follows:

In order to provide customized programming it is preferable to utilize the ~~the~~ storage and transmission system disclosed herein in conjunction with a system that provides information about the users in order to more accurately ~~provided~~ provide appropriate and desired customized programming. Such information could be a simple as geographic location, which may also provide some demographic overtones. It is preferable, however, to have as much information as possible about users in order to customize programming as accurately as possible. Addressable transmission systems such as digital cable and digital broadcast satellite television provide the ability to identify, interact with, and provide particular programming (e.g., pay-per-view-programming) directly to individual users, as well as collect more extensive information about them. Such information can include television viewing preferences, e.g., by capturing event programming guide information, and more particularized geographic and demographic data. If the transmission system 250 is interactive, queries can be presented to users to solicit additional user information, which can be compiled and analyzed to provide more focused programming content. Further, if the user participates in any television/Internet convergence programming offerings, additional information about the user's Internet usage can be used to establish a profile of the user, or profiles of groups of users, to allow the presentation of more customized programming.

Replace the paragraph beginning at page 27, line 34 and carrying over to page 28 through line 10 as follows:

In the present invention, the system software of the transmission system 250 and user receiver 550 preferably include browser software. ~~Thesebrowsers~~ These browsers may access a donut file or database structure storing donuts, and web servers may include files or other database structures for storing copies of the donut. The donut file for a particular user is typically stored only on a data storage server at the transmission center 102, or other

remote location, but could be stored locally in memory on the user's receiver 550 or on both the server and the user's receiver 550. The donut thus implements a dynamic store of shared profile data that is exchanged between the user's receiver 550 (client) and server, with the flexibility to collect and process that data in three ways: client-side evaluation, http-based server-side evaluation, and network-based server-side evaluation.

Replace the paragraph beginning at page 29, line 34 and carrying over to page 30 through line 9 as follows:

The transmission system ~~250~~ processor 258 and the receiver ~~550~~ processor 560 ~~mayo~~ may monitor the user's activity in order to dynamically update the user's donut. The user's activity may involve any type of information relating to the user's interaction with the network or program content provided to the user. For example, the user profile system may detect the following: programming viewed by the user; user viewing habits; advertisements viewed or not viewed; the rate at which the user selects or "clicks on" URLs to request particular content; which URLs the user selects; the amount of elapsed time the user has remained logged onto the network; the extent to which the user participates in chat room discussions; responses to interactive segments; other input from the user; and any other such information.

Replace the paragraph beginning at page 30, line 21 and carrying over to page 31 through line 2 as follows:

This donut methodology can be translated from an individual user based profile to a macro scale providing local, regional, and system-wide profiles. These macro system profiles can be used in the selection of programming for storage in storage servers 214 at the particular system site. For example, particular programming may be especially popular in the Southeast of the United States of America, while not commanding any sizeable audience in Utah. In this case it would not make sense for transmission centers 102 in Utah to store that particular programming in their storage servers 214. Creating regional and system-wide donut profiles can sensibly allocate programming storage to locations of highest demand. Programming that is universally popular may be redundantly stored at multiple transmission centers 102 to accommodate demand. The length of time that particular programming is saved in storage at a particular transmission system location may be part of the donut variables as well. Factors such as strength of demand, the average window in which users request such programming, the timeliness or currency of the programming (e.g., a weather

forecast), etc., can be used in a donut scheme ~~to~~ for stocking and turning over the programming libraries in the transmission system.

In the Claims:

Please amend claims 1, 3-5, 7, 11-20, 23-39, 42-46, 49-53, 55-71, 73-82, 85-86, and 88-90 as follows.

1. (Amended) A method of providing customized programming in a digital interactive programming system from a programming transmission center to at least one user, the customized programming comprising a succession of digital program segments selected by the digital interactive programming system from a plurality of digital program segments according to user preference information of the at least one user, the customized programming selected to appeal to the programming preferences of the at least one user, the method comprising:

accessing user preference information indicating the programming preferences of the at least one user;

selecting and accessing a first digital program segment of the succession of digital program segments from the plurality of digital programming segments according to the user preference information of the at least one user;

transmitting the first digital program segment to a reception system of the at least one user;

identifying a splice point in the first digital program segment before ~~the~~ completing the step of transmitting;

selecting and accessing a second digital program segment of the succession of digital program segments from the plurality of digital program segments according to the user preference information;

seamlessly switching from the first digital program segment to the second digital program segment at the splice point identified in the first digital program segment, wherein the switch occurs without creating any ~~artifacts~~ perceptible artifacts when the succession of digital program segments is presented to the at least one user; and

transmitting the second program segment to the reception system of the at least one user.

3. (Amended) A method of providing customized programming as described in claim 2 wherein the at least one storage server ~~is~~ uses media selected from the group

~~consisting~~ comprising at least one of: ~~a data storage server,~~ magnetic storage media, optical storage media, video tape, audio tape, compact disk, video disk, and mini-disk.

4. (Amended) A method of providing customized programming as described in claim 1 further comprising the step of encoding each of the succession of digital program segments with the splice point.

5. (Amended) A method of providing customized programming as described in claim 2 further comprising the step of encoding each of the succession of digital program segments with the splice point before the step of storing.

7. (Amended) A method of providing customized programming as described in claim 1 wherein the digital interactive programming system further comprises a user profile system and wherein the user preference information ~~ins~~ is accessed from the user profile system.

11. (Amended) A method of providing customized programming as described in claim 10 wherein the backchannel communication link is a communication system selected from the group ~~consisting of~~ comprising: radio, telephony, wireless telephony, a communication network, the Internet, two-way cable, digital subscriber line, fiber optic, and satellite.

12. (Amended) A method of providing customized programming as described in claim 1 wherein at least one of the step of accessing the first digital program segment or the step of accessing the second digital program segment further comprises the steps of requesting and receiving at least one digital program segment from a remote transmission source.

13. (Amended) A method of providing customized programming as described in claim 12 wherein the remote transmission source is selected from the group ~~consisting of~~ comprising: a local transmission center, a regional transmission center, a local broadcast center, and a national broadcast center.

14. (Amended) A method of providing customized programming as described in claim ~~14~~ 12 wherein the transmission received from the remote transmission source is received via a transmission medium selected from the group ~~consisting of~~ comprising: terrestrial broadcast television ~~broadcast~~, cable, satellite, fiber optic, point-to-point microwave, radio, telephony, wireless telephony, the Internet, a private network, and a communication network.

15. (Amended) A method of providing customized programming as described in claim ~~12~~ 1 wherein the succession of digital program segments is accessed from a library

and the steps of selecting further ~~comprising~~ comprise the step of selecting at least one digital program segment ~~from the remote transmission source~~ according to information within a library database ~~of a~~ associated with the library of digital program segments ~~stored at the remote transmission source~~.

16. (Amended) A method of providing customized programming as described in claim 15 further comprising the step of updating the ~~programming~~ library and the library database according to a set of rules governing the ~~database profile~~ library, wherein

the set of ~~rule dictate~~ rules dictates:

which of the digital program segments are to be stored in the library,

a location for storing each of the digital program segments, and

a period of time for storage of each of the digital program segments, and

wherein

the library database stores information identifying the digital program segments stored, the location, and the period of time as determined by the set of rules; and

the set of rules ~~are~~ is based upon an aggregation of related user preference information of a plurality of users.

17. (Amended) A method of providing customized programming as described in claim 1 wherein at least one of the steps of accessing the first digital program segment or the step of accessing the second digital program segment further comprises retrieving at least one digital program ~~segments~~ segment from the Internet via a communication link between the programming transmission center and the Internet.

18. (Amended) A method of providing customized programming as described in claim 1 wherein at least one of the steps of accessing the first digital program segment or the step of accessing the second digital program segment further comprises retrieving at least one digital program ~~segments~~ segment from a private network via a communication link between the programming transmission center and the private network.

19. (Amended) A method of providing customized programming as described in claim 1 wherein the steps of transmitting are performed over a transmission medium selected from the group ~~consisting of~~ comprising: terrestrial broadcast television ~~broadcast~~, cable, satellite, fiber optic, microwave, radio, telephony, wireless telephony, the Internet, a private network, and a communication network.

20. (Amended) A method of providing customized programming as described in claim 1 wherein the plurality of digital program segments comprise at least one of the

programming selected from the group ~~consisting of~~ comprising: audio, video, still-frame video, multimedia, graphic image, animation, data, programming applications, and text.

23. (Amended) A method of providing customized programming as described in claim 10 further comprising the step of receiving the ~~user's input or a response to the at least one user to at least one interrogatory contained in the succession of digital program segments~~ user preference information at the programming transmission center via the backchannel communication link, wherein

the user preference information further comprises at least one of a user selection and an interactive response by at least one user to at least one interrogatory contained in the succession of digital program segments; and

the selection of the succession of digital program segments is further determined by the interactive programming system based upon ~~responses of the~~ at least one ~~user to~~ of the user selection and the interactive response ~~the posited interrogatories~~.

24. (Amended) A method of providing customized programming as described in claim 4 wherein the step of encoding further comprises encoding at least one data command in at least one of the succession of digital program segments, the at least one data ~~commands~~ command encoded for instructing a reception system of the at least one user to retrieve an additional digital program ~~segments~~ segment over a communication network ~~wherein the communication network is selected from the group consisting of the Internet and a private network~~.

25. (Amended) A programming transmission system in a digital interactive programming system for providing customized programming from a programming transmission center to at least one user ~~utilizing an interactive programming system~~, the customized programming comprising a succession of digital program segments selected by the digital interactive programming system from a plurality of digital program segments according to user preference information of the at least one user, the customized programming selected to appeal to the programming preferences of the at least one user, the programming transmission system comprising:

a program selector which selects and accesses the succession ~~ofdigital~~ of digital program segments from the plurality of digital program segments, wherein each of the succession of digital program segments is selected ~~are determined~~ in individual succession by the digital interactive programming system based upon the user preference information of the at least one user;

a memory which stores the user preference information;

a data filter which identifies a splice point in each of the succession of digital program segments;

a program switcher which switches between a prior digital program segment and a successive digital program segment in the succession of digital program segments at the splice point of the prior digital program segment, wherein a seamless switch occurs without creating any ~~artifacts~~ perceptible artifacts when the succession of digital program segments is presented to the at least one user;

a processor that coordinates the functions of the program selector, the data filter, the program switcher, and the digital interactive programming system; and

a programming transmitter that transmits the successive digital program segments to the at least one user.

26. (Amended) A programming transmission system for providing customized programming as described in claim 25 further comprising at least one storage server for storing the plurality of digital program segments.

27. (Amended) A programming transmission system for providing customized programming as described in claim 26 wherein the at least one storage server ~~is~~ uses storage media selected from the group ~~consisting~~ comprising at least one of: ~~a data storage server,~~ magnetic storage media, optical storage media, video tape, audio tape, compact disk, video disk, and mini-disk.

28. (Amended) A programming transmission system for providing customized programming as described in claim 25 further comprising a backchannel receiver that receives user preference information from a receiver of the at least ~~on~~ one user over a backchannel communication link between the programming transmission center and the receiver of the at least one user.

29. (Amended) A programming transmission system for providing customized programming as described in claim 28 wherein the backchannel communication link is a communication system selected from the group ~~consisting of~~ comprising: radio, telephony, wireless telephony, a communication network, the Internet, a digital subscriber line, cable, fiber optic, and satellite.

30. (Amended) A programming transmission system for providing customized programming as described in claim 25 wherein the memory comprises a computer readable medium selected from the group ~~consisting of~~ comprising: a data storage server, optical storage media, and magnetic storage media.

31. (Amended) A programming transmission system for providing customized programming as described in claim 25 further comprising a receiver that receives at least one of succession of the digital program segments via a transmission from a remote transmission source.

32. (Amended) A programming transmission system for providing customized programming as described in claim ~~31~~ 25 further comprising:

a library in which the plurality of digital program segments is stored; and

a library database that stores information associated with the ~~profile of a programming library~~ plurality of digital program segments~~, wherein the library of digital program segments is stored at at least one of the remote transmission sources~~.

33. (Amended) A programming transmission system for providing customized programming as described in claim 32 wherein

the ~~programming~~ library and the library database are ~~is~~ updated according to a set of rules governing the ~~database profile which~~ library; wherein

the set of rules dictates:

the digital program segments to be stored,

a location for storing each of the digital program segments, and

a period of time for storage~~, and wherein the rules are~~ of each of the digital program segments;

the library database stores information identifying the digital program segments stored, the location, and the period of time as determined by the set of rules; and

the set of rules is based upon an aggregation of related user preference information of ~~multiple~~ a plurality of users.

34. (Amended) A programming transmission system for providing customized programming as described in claim 31 wherein the remote transmission source is selected from the group ~~consisting of~~ comprising: a local transmission center, a regional transmission center, a local broadcast center, and a national broadcast center.

35. (Amended) A programming transmission system for providing customized programming as described in claim 31 further comprising at least one storage server that stores the at least one of the succession of digital program segments received from the remote transmission source.

36. (Amended) A programming transmission system for providing customized programming as described in claim 31 wherein the program selector accesses the at least one of the succession of digital program segments directly from the receiver.

37. (Amended) A programming transmission system for providing customized programming as described in claim 31 wherein the transmission received from the remote transmission source is received via a transmission medium selected from the group ~~consisting of~~ comprising: terrestrial broadcast television ~~broadcast~~, cable, satellite, fiber optic, microwave, radio, telephony, wireless telephony, the Internet, a private network, and a communication network.

38. (Amended) A programming transmission system for providing customized programming as described in claim 25 wherein the programming transmitter transmits the digital program segments over a transmission medium selected from the group ~~consisting of~~ comprising: terrestrial broadcast television ~~broadcast~~, cable, satellite, fiber optic, microwave, radio, telephony, wireless telephony, the Internet, a private network, and a communication network.

39. (Amended) A programming transmission system for providing customized programming as described in claim 25 wherein the digital program segments comprise at least one of the programming selected from the group ~~consisting of~~ comprising: audio, video, still-frame video, multimedia, graphic image, animation, data, programming applications, and text.

42. (Amended) A programming transmission system for providing customized programming as described in claim 28, wherein

at least one ~~or more~~ of the succession of digital program segments ~~contain interrogatories~~ contains an interrogatory for interacting with the ~~particular user, and wherein~~ at least one user;

the backchannel receiver receives ~~user responses to the interrogatories or other user input~~ at least one of a user selection and an interactive response by the at least one user to the interrogatory via the backchannel communication link between the programming transmission center and the ~~particular user's~~ receiver~~, whereby~~; and

the at least one of the succession of digital program segments selected ~~are~~ is determined by the interactive programming system based upon ~~user responses to the posited interrogatories and other user input~~ the user selection or the interactive response.

43. (Amended) A programming transmission system for providing customized programming as described in claim 25 wherein the plurality of digital program segments are compressed and encoded according to MPEG standards.

44. (Amended) A programming transmission system for providing customized programming as described in claim 43 wherein the splice ~~points are~~ point is an MPEG ~~codes~~ code.

45. (Amended) A programming transmission system for providing customized programming as described in claim 25 ~~wherein~~ further comprising a data inserter that inserts a data command in ~~the~~ at least one of the succession of digital program segments ~~instructs~~ to instruct a ~~particular user's~~ receiver of the at least one user to retrieve ~~additional~~ at least one of the succession of digital program segments from the Internet.

46. (Amended) A programming transmission system for providing customized programming as described in claim 25 ~~wherein~~ further comprising a data inserter that inserts a data command in ~~the~~ at least one of the succession of digital program segments ~~instructs~~ to instruct a ~~particular user's~~ receiver of the at least one user to retrieve ~~additional~~ at least one of the succession of digital program segments from a private network.

49. (Amended) A programming transmission system for providing customized programming as described in claim 25 further comprising a data rate controller ~~which~~ that controls the rate at which each of the ~~successive~~ succession of digital program segments are transferred to the programming transmitter, thereby varying the rate of transmission of the succession of digital program segments to coordinate ~~the~~ a transmission rate with ~~the~~ a filling rate and an outflow ~~rates~~ rate of a buffering component in a receiver ~~at a user's location~~ of the at least one user.

50. (Amended) A method of creating customized programming for transmission within ~~an~~ a digital interactive programming system comprising ~~the steps of~~:

selecting ~~multiple~~ a first digital program segment and a second digital program segment from a plurality of digital program segments, the first and second digital program segments comprising a succession of digital program segments;

encoding a splice point within ~~one or more of~~ the first digital program ~~segments~~ segment to facilitate a seamless switch to ~~another of~~ the second digital program ~~segments~~ segment;

compressing the succession of digital program segments; and

storing the ~~selected~~ succession of digital program segments on ~~one or more~~ a storage ~~servers~~ server accessible by a programming transmission center; wherein

the customized programming is selected to appeal to programming preferences of a user.

51. (Amended) A method of creating customized programming as described in claim 50 wherein the step of selecting is performed by the digital interactive programming system based upon user preference information of ~~a particular~~ the user.

52. (Amended) A method of creating customized programming as described in claim 50 wherein the step of selecting is performed by the digital interactive programming system based upon user preference information of a plurality of users with common programming interests.

53. (Amended) A method of creating customized programming as described in claim 50 wherein the step of selecting is performed by the digital interactive programming system based upon information in a database governed by a set of rules, ~~governing a database~~ wherein ~~profile which~~

the set of rules dictates:

the succession of digital program segments to be stored,

a location for storing the ~~selected~~ succession of digital program segments, and

a period of time for storage of each of the succession of digital program segments; and wherein

the information in the database identifies the digital program segments stored, the location, and the period of time as determined by the set of rules; and

the set of rules ~~are~~ is based upon an aggregation of related user preference information of ~~multiple~~ a plurality of users.

55. (Amended) A method of creating customized programming as described in claim 50 wherein the storage ~~servers are~~ server uses at least one of a storage media selected from the group ~~consisting of~~ comprising: ~~data storage servers,~~ magnetic storage media, optical storage media, video tapes, audio tapes, compact disks, video disks, and mini-disks.

56. (Amended) A method of creating customized programming as described in claim 50 wherein the storage ~~servers are~~ server is located at the programming transmission center.

57. (Amended) A method of creating customized programming as described in claim 50 wherein ~~one or more of~~ the storage ~~servers are~~ server is located at a remote transmission source from which the programming transmission center requests and receives at least one of the succession of digital program segments.

58. (Amended) A method of creating customized programming as described in claim 57 wherein the remote transmission source is selected from the group ~~consisting of~~

comprising: a local transmission center, a regional transmission center, a local broadcast center, a national broadcast center, an Internet server, and a private network server.

59. (Amended) A method of creating customized programming as described in claim 50 wherein the plurality of digital program segments comprise at least one of programming selected from ~~the~~ a group ~~consisting of~~ comprising: audio, video, still-frame video, multimedia, animation, graphic image, and text.

60. (Amended) A method of creating customized programming as described in claim 50 wherein the plurality of digital program segments comprise still-frame video for transmission via a low bandwidth transmission medium.

61. (Amended) A method of creating customized programming as described in claim 50 wherein the step of encoding further includes encoding ~~one or more~~ a data ~~commands in~~ command in at least one ~~or more~~ of the succession of digital program segments, the data ~~commands~~ command for instructing receiving equipment ~~at a user's location~~ of the user to retrieve an additional digital program ~~segments~~ segment from at least one of the Internet and a communication network.

62. (Amended) A computer program product for instructing a computer controlled digital programming ~~transmission~~ system with interactive programming technology to provide customized programming to a user, the customized programming comprising a succession of digital program segments selected by the digital programming system from a plurality of digital programming segments according to user preference information of a user, the customized programming selected to appeal to programming preferences of the user, the computer program product comprising a computer readable medium having computer readable program code embodied therein for controlling the programming transmission system, the computer readable program code comprising instructions for:

causing the digital programming ~~transmission~~ system to access ~~information in a~~ the user preference information;

causing the digital programming ~~transmission~~ system to select and access a first digital program segment, wherein the ~~particular digital program segment selected as~~ selection of the first digital program segment is determined by the interactive programming system based upon the user preference information of ~~a particular~~ the user;

causing the digital programming ~~transmission~~ system to transmit the first digital program segment to the ~~particular~~ user;

causing the digital programming ~~transmission~~ system to identify a splice point in the

first digital program segment ~~prior to~~ before the completion of its transmission to the user;

causing the digital programming ~~transmission~~ system to select and access a second digital program segment, wherein the ~~particular digital program segment selected as~~ selection of the second digital program segment is determined by the interactive programming ~~system~~ technology based upon the user preference information of the ~~particular~~ user;

causing the digital programming ~~transmission~~ system to seamlessly switch from the first digital program segment to the second digital program segment at the splice point identified in the first digital program segment, ~~whereby~~ wherein the switch is accomplished without a user perceptible delay between presentation of the first digital program ~~segments;~~ segment and ~~causing the programming transmission system to transmit~~ the second digital program segment ~~to the particular user, thereby providing~~; and

causing the digital programming system to transmit the second digital program segment to the user, wherein an uninterrupted customized program transmission is provided to the ~~particular~~ user.

63. (Amended) A computer program product as described in claim 62 wherein the computer readable program code further comprises instructions for causing the digital programming ~~transmission~~ system to store the plurality of digital program segments on ~~one or more~~ a storage ~~servers~~ server at the programming transmission center, ~~whereby~~ wherein the digital program segments are accessed from the storage ~~servers~~ server.

64. (Amended) A computer program product as described in claim 62 wherein the computer readable program code further comprises instructions for causing the digital programming ~~transmission~~ system to encode ~~one or more~~ each of the succession of digital program segments with the splice point.

65. (Amended) A computer program product as described in claim ~~62~~ 63 wherein the computer readable program code further comprises instructions for causing the digital programming ~~transmission~~ system to encode ~~one or more~~ each of the succession of digital program segments with the splice point before causing the digital programming ~~transmission~~ system to store the succession of digital program segments.

66. (Amended) A computer program product as described in claim 64 wherein the succession of digital program segments are encoded according to MPEG standards.

67. (Amended) A computer program product as described in claim 65 wherein the succession of digital program segments are encoded according to MPEG standards.

68. (Amended) A computer program product as described in claim ~~62~~ 63 wherein the computer readable program code further comprises instructions for causing the

digital programming ~~transmission~~ system to compress the succession of digital program segments ~~prior to~~ before the step of storing.

69. (Amended) A computer program product as described in claim 68 wherein the succession of digital program segments are compressed according to MPEG standards.

70. (Amended) A computer program product as described in claim 62 wherein the computer readable program code further comprises instructions for causing the digital programming ~~transmission~~ system to receive the user preference information from the ~~particular~~ user via a backchannel communication link between a ~~particular user's~~ receiver of the user and the programming transmission center.

71. (Amended) A computer program product as described in claim 70 wherein the backchannel communication link is a communication system selected from the group ~~consisting of~~ comprising: radio, telephone, wireless telephone, a communication network, cable, fiber optic, and satellite.

73. (Amended) A computer program product as described in claim 70 wherein the computer readable program code further comprises instructions for causing the digital programming ~~transmission~~ system to store the user preference information in a memory module at the programming transmission center.

74. (Amended) A computer program product as described in claim 73 wherein the memory module is a computer readable medium selected from the group ~~consisting of~~ comprising: a data storage server, optical storage media, and magnetic storage media.

75. (Amended) A computer program product as described in claim 62 wherein the instructions for accessing at least one of the first digital program segment and the second digital program segment further comprise instructions for causing the programming ~~transmission~~ system to request and receive at least one of the first digital program ~~segments~~ segment and the second digital program segment from a remote transmission source.

76. (Amended) A computer program product as described in claim 75 wherein the remote transmission source is selected from the group ~~consisting of~~ comprising: a local transmission center, a regional transmission center, a local broadcast center, and a national broadcast center.

77. (Amended) A computer program product as described in claim 75 wherein the transmission received from the remote transmission source is received via a transmission medium selected from the group ~~consisting of~~ comprising: terrestrial broadcast television ~~broadcast~~, cable, satellite, fiber optic, microwave, radio, telephone, wireless telephone, and a communication network.

78. (Amended) A computer program product as described in claim 62 ~~75~~ wherein the instructions for requesting and receiving further comprise instructions for causing the digital programming ~~transmission~~ system to select ~~the remote transmission source~~ at least one of the first digital program segment and the second digital program segment based upon information in a database, the database associated with ~~profile of~~ a ~~programming~~ library ~~of~~ in which the plurality of digital program segments is stored ~~at the remote transmission source~~.

79. (Amended) A computer program product as described in claim 78 further including instructions for causing the digital programming ~~transmission~~ system to update the ~~programming~~ library and the database according to a set of rules governing the ~~database profile which~~ library, wherein

the set of rules dictates:

the digital program segments to be stored in the library,

a location for storing the digital program segments, and

a period of time for storage~~,~~ of each of the digital program segments; and

wherein

the database stores information identifying the digital program segments stored, the location, and the period of time as determined by the set of rules; and

the set of rules ~~are~~ is based upon an aggregation of related user preference information of ~~multiple~~ a plurality of users.

80. (Amended) A computer program product as described in claim 62 wherein the instructions for accessing ~~further including~~ at least one of the first digital programming segment and the second digital programming segment further comprise instructions for causing the digital programming ~~transmission~~ system to retrieve at least one of the first digital programming segment and the second digital programming segment ~~digital program segments~~ from the Internet via a communication link between the programming transmission center and the Internet.

81. (Amended) A computer program product as described in claim 62 wherein the instructions for accessing ~~further including~~ at least one of the first digital programming segment and the second digital programming segment further comprise instructions for causing the digital programming ~~transmission~~ system to retrieve at least one of the first digital programming segment and the second digital programming segment ~~digital program segments~~ from a private network via a communication link between the programming transmission center and the private network.

82. (Amended) A computer program product as described in claim 62 wherein the digital programming ~~transmission~~ system transmits the succession of digital program segments over a transmission medium selected from the group ~~consisting of~~ comprising: terrestrial broadcast television ~~broadcast~~, cable, satellite, fiber optic, microwave, radio, telephone, wireless telephone, and a communication network.

85. (Amended) A computer program product as described in claim 62 wherein the plurality of digital program segments comprise at least one of programming selected from ~~the~~ a group ~~consisting of~~ comprising: audio, video, multimedia, graphic image, animation, data, programming applications, and text.

86. (Amended) A computer program product as described in claim 62 wherein the plurality of digital program segments comprise still frame pictures for transmission via a low bandwidth transmission medium.

88. (Amended) A computer program product as described in claim 70 ~~further including~~ wherein the computer readable program code further comprises instructions for causing the digital programming ~~transmission~~ system to receive the ~~user's input or the user's responses to one or more interrogatories contained in the digital program segments~~ user preference information at the programming transmission center via the backchannel communication link, ~~whereby the particular~~ wherein

the user preference information further comprises at least one of a user selection and an interactive response by the user to an interrogatory contained in the digital program segments; and ~~selected are~~

the selection of the succession of digital program segments is further determined by the ~~interactive~~ digital programming system based upon ~~user responses to the posited interrogatories~~ at least one of the user selection and the interactive response.

89. (Amended) A computer program product as described in claim 64 wherein the instructions for encoding further include instructions for encoding ~~one or more~~ a data ~~commands in~~ command in at least one ~~or more~~ of the succession of digital program segments, the data ~~commands~~ command for instructing receiving equipment ~~at a user's location~~ of the user to retrieve an additional digital program ~~segments~~ segment from the Internet.

90. (Amended) A computer program product as described in claim ~~65~~ 64 wherein the instructions for encoding further include instructions for encoding ~~one or more~~ a data ~~commands in~~ command in at least one ~~or more~~ of the succession of digital program segments, the data ~~commands~~ command for instructing receiving equipment ~~at a user's~~

~~location~~ of the user to retrieve an additional digital program segment from a private network ~~segments from the Internet~~.

~~91. A computer program product as described in claim 64 wherein the instructions for encoding further include instructions for encoding one or more data commands in one or more of the digital program segments, the data commands for instructing receiving equipment at a user's location to retrieve additional digital program segments from a private network.~~

~~92. A computer program product as described in claim 65 wherein the instructions for encoding further include instructions for encoding one or more data commands in one or more of the digital program segments, the data commands for instructing receiving equipment at a user's location to retrieve additional digital program segments from a private network.~~

In the Abstract:

A ~~Customized Programming~~ customized programming creation system provides the ability to transmit ~~Customized Programming~~ customized programming offerings to individual users based upon their known profile or their responses to contemporaneous queries. ~~In its basic form, the~~ The invention provides for a programming transmission center to maintain a single or multiple MPEG storage server ~~environments. Through the use of digital conversion and MPEG compression standards,~~ environments storing a vast library of programming and other information signals ~~can be stored on such file servers~~. The transmission center selects and accesses programming segments or other information from the storage servers. Through the use of splice points encoded through the MPEG process, the programming transmission center can inconspicuously splice disparate program segments together to create a single custom program stream for delivery to a single user or multiple users of the same profile.

~~Using interactive programming technology, a user profile is created and stored based on known, purchased and/or usage based variables. The interactive programming system collects information through the user's receiver by monitoring the user's viewing habits and cataloguing user responses to interactive programming queries. Such profile information is transmitted to the programming transmission center via a backchannel communication link with the user's receiver. The Customized Programming stream may then be created to reinforce known or educated assumptions of programming and commercial selections that are most pertinent to the particular user, bringing some personalization to the vast library of stored programs and information.~~